
Evaluation of New Nebraska Community Hospital Facilities

EDRA CORE
May 23, 2019





01

CURRENT EVIDENCE

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Nursing decentralization not consistently defined in the literature to date

- Largely ignores the many variations of decentralized models
- Very different designs included in a too-broad category

Other critical variables not considered in drawing conclusions

- Nurse room assignment methodology
- Locations of supplies/meds
- Technology adoption
- Other operational factors

CURRENT EVIDENCE

Limited, but consistent, qualitative findings indicate **issues with:**

- **Teamwork**
- **Support**
- **Communication**

Research frequently focused on staff outcomes but with **little focus on organizational planning and the change management process**

No definitive evidence to warrant either a centralized or decentralized inpatient unit design

- But can help meet current guidelines regarding “patient visibility”



02 RESEARCH GOALS & SPECIFIC AIMS

Research Team

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Acknowledgements

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Nursing Institute for Healthcare Design (NIHD)

Research Sites

Great Plains Health, North Platte, Nebraska

- In September 2015, transitioned inpatient services to a 114-bed patient tower with a decentralized nursing model with alcove stations

Fremont Health, Fremont, Nebraska.

- In January 2015, transitioned to a 76-bed inpatient unit environment with a decentralized nursing model with alcove stations



Research Goals

- Investigate impacts of the new decentralized inpatient unit environments on patient and nurse experience and outcomes
- Measure staff satisfaction with the new building, the decentralized model and the change management process
- Contribute to the body of empirical work informing evidence-based healthcare design





Great Plains Health

North Platte, NE, USA





Fremont, NE, USA



February 9
Births
Fiona 22
Kally 20, 21
Sarah 19
Clean - 7
Not clean - 10

Specific Research Aims

Aim 1: Patient Outcomes

Determine whether architectural changes from a centralized to a decentralized nursing unit model are associated with key adult inpatient outcomes

Aim 2: Staff Experience

Quantitatively and qualitatively explore nurse perspectives of the decentralized nursing model, collaboration, satisfaction, organizational factors and change management

Aim 3: Facility Performance

Assess facility performance via validated experiential measures of the physical and ambient environment



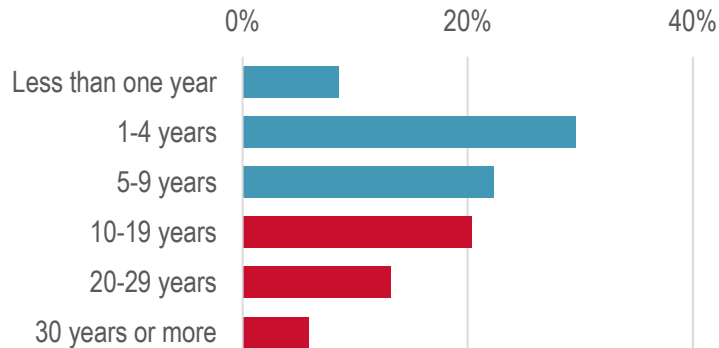


03 STAFF
EXPERIENCE
SURVEY

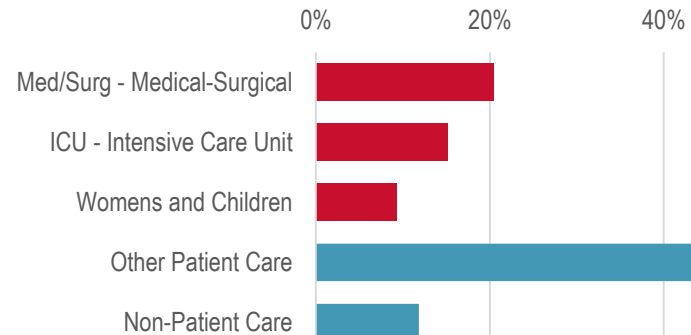
Participants at Great Plains Health

- **152** participants in a patient care or nursing role
- **53%** RNs
- Average years working at Great Plains Health: **6.8 years**

39% of patient care and nurse respondents have **at least 10 years** of hospital work experience



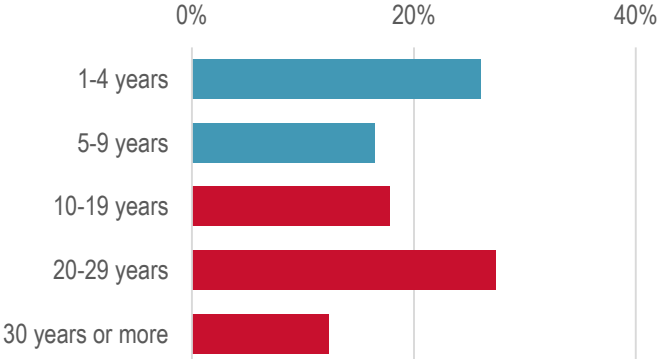
45% of patient care and nurse respondents work in on an **inpatient care unit**



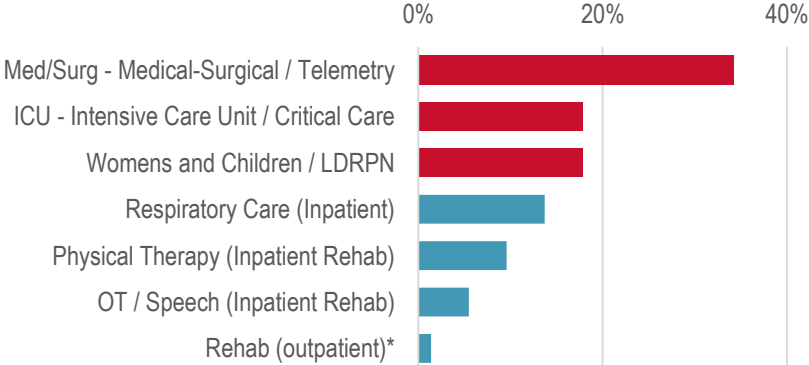
Participants at Fremont Health

- 73 participants in a patient care or nursing role
- 59% RNs
- Average years working at Fremont Health: 11.2 years

58% of respondents have **at least 10 years** of hospital work experience

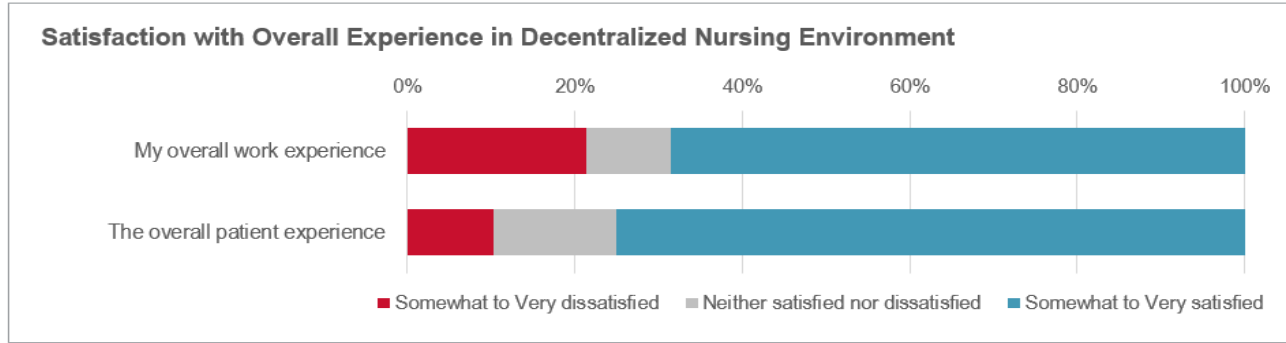


70% of respondents work on an **inpatient care unit**

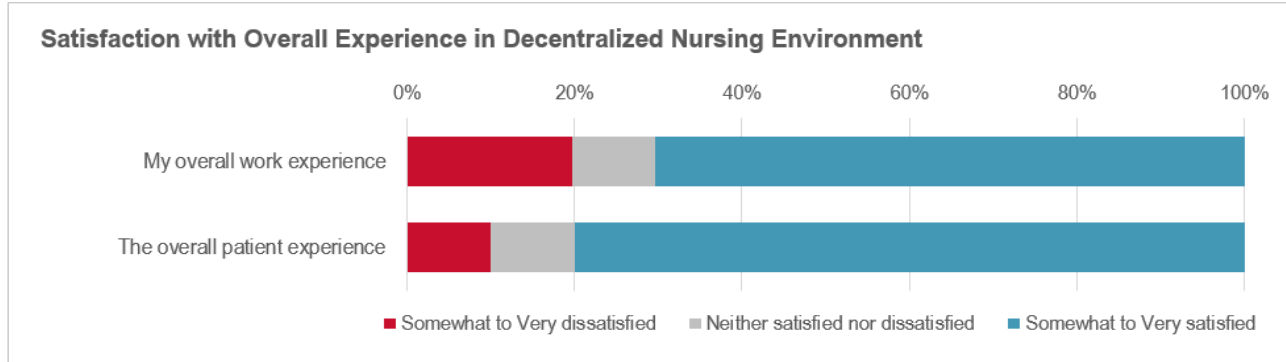


STAFF EXPERIENCE

Satisfaction with Decentralized Design



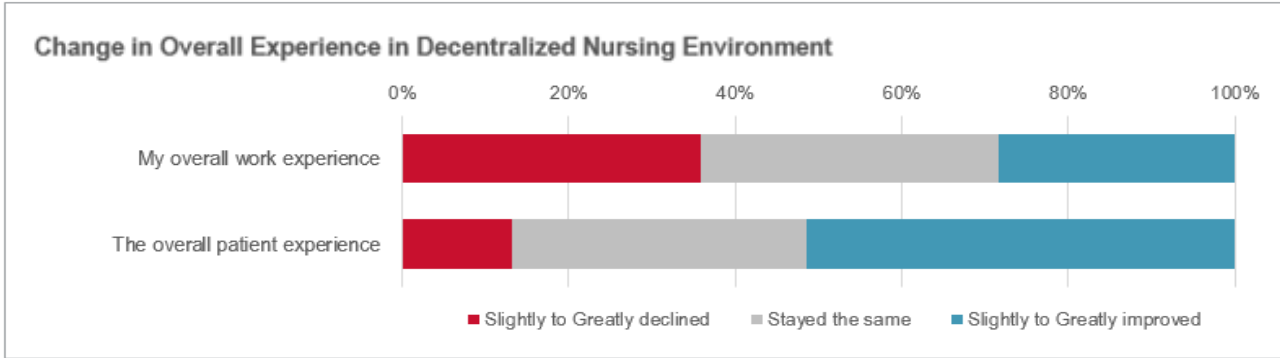
Great Plains Health



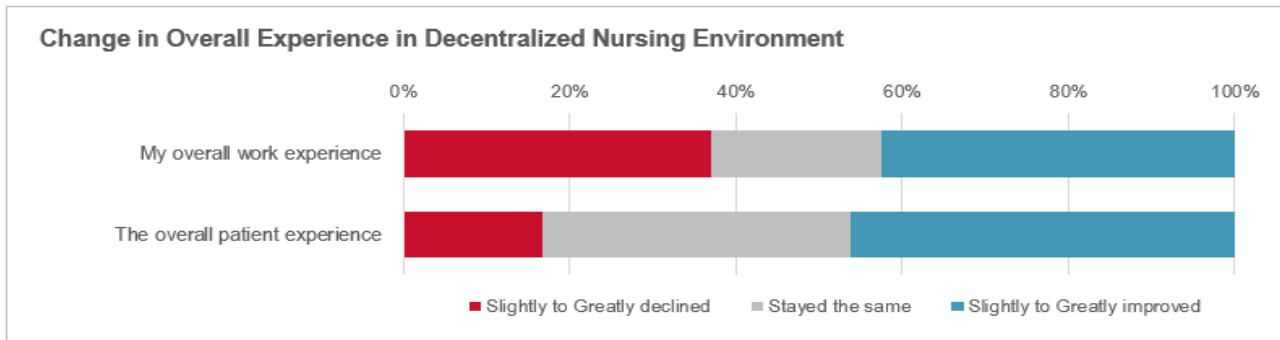
Fremont Health

STAFF EXPERIENCE

Change in Experience due to Decentralized Design



Great Plains Health



Fremont Health

Outcome Measures

Nurse Job Satisfaction (Chang 2015;
Chang et al. 2011):

Assessment of work and interpersonal satisfaction among nurses

Collaboration (Hua 2010):

Experience of working with others and perceptions of the degree to which collaboration among coworkers was effective

Nurse Satisfaction with Patient Care Environment (Rich et al. forthcoming):

Degree to which nurses are satisfied with the patient care environment and changes in the patient care environment



Organizational Measures

Commitment to Change (Herscovitch & Meyer 2002):

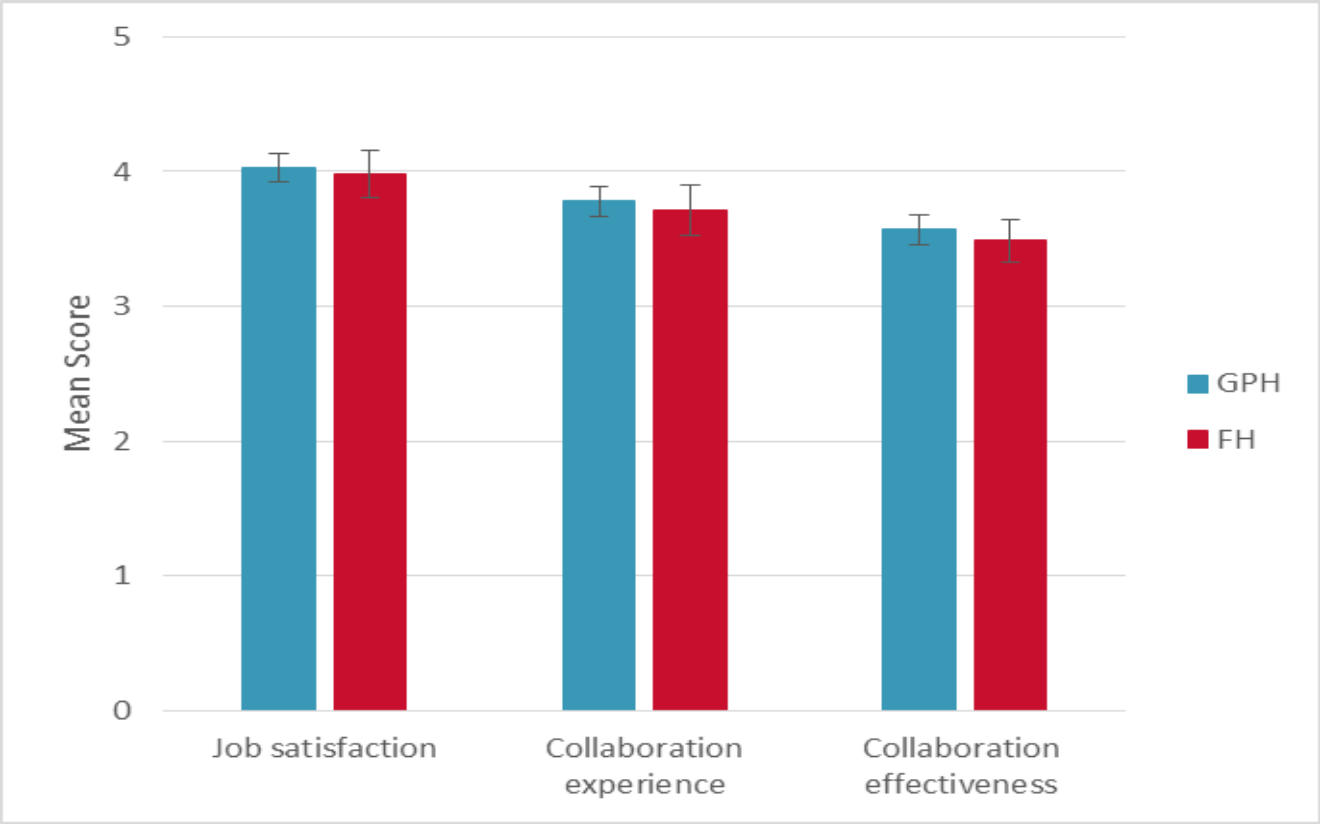
Degree to which individuals are committed to a course of action necessary for a successful change

Change Leadership (Herold, Fedor, Caldwell & Liu 2008):

Degree to which leaders engaged behaviors needed to effectively implement change

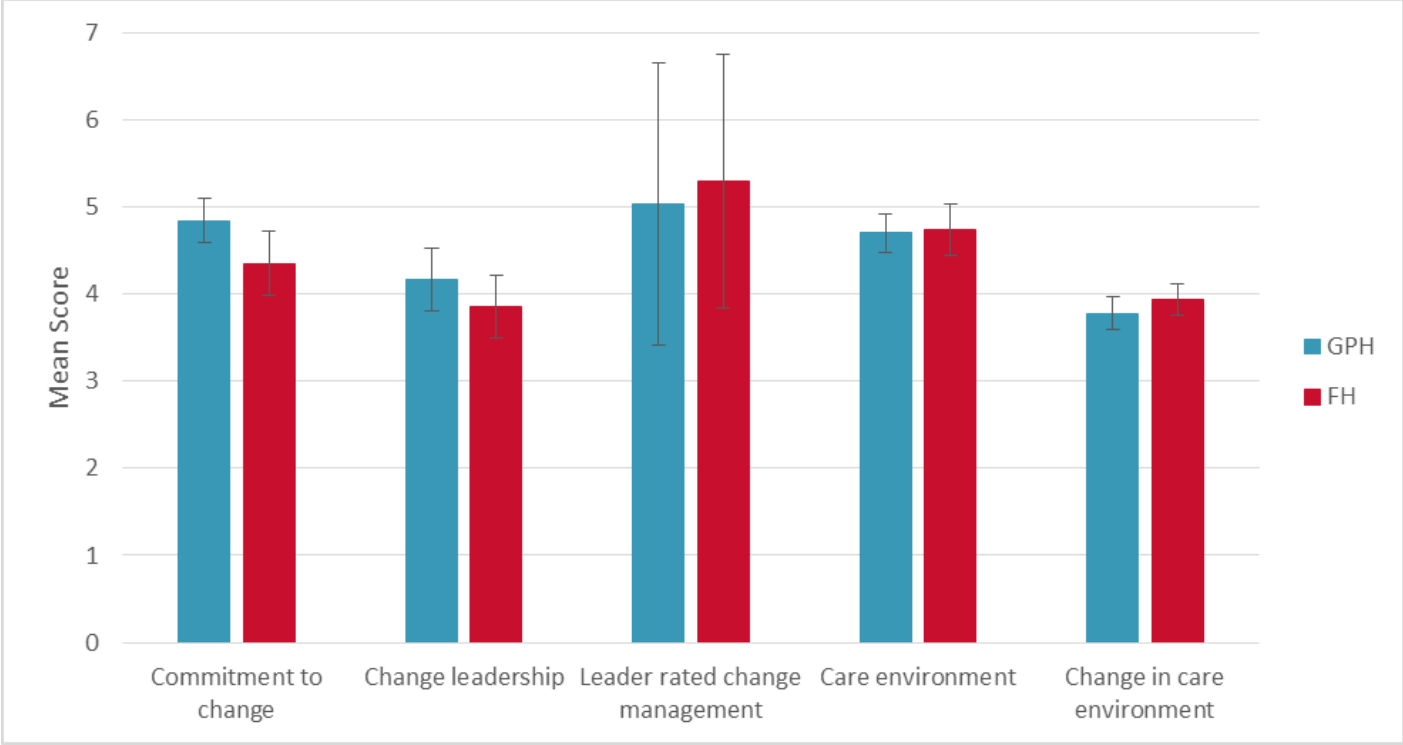


Staff Outcome Measures



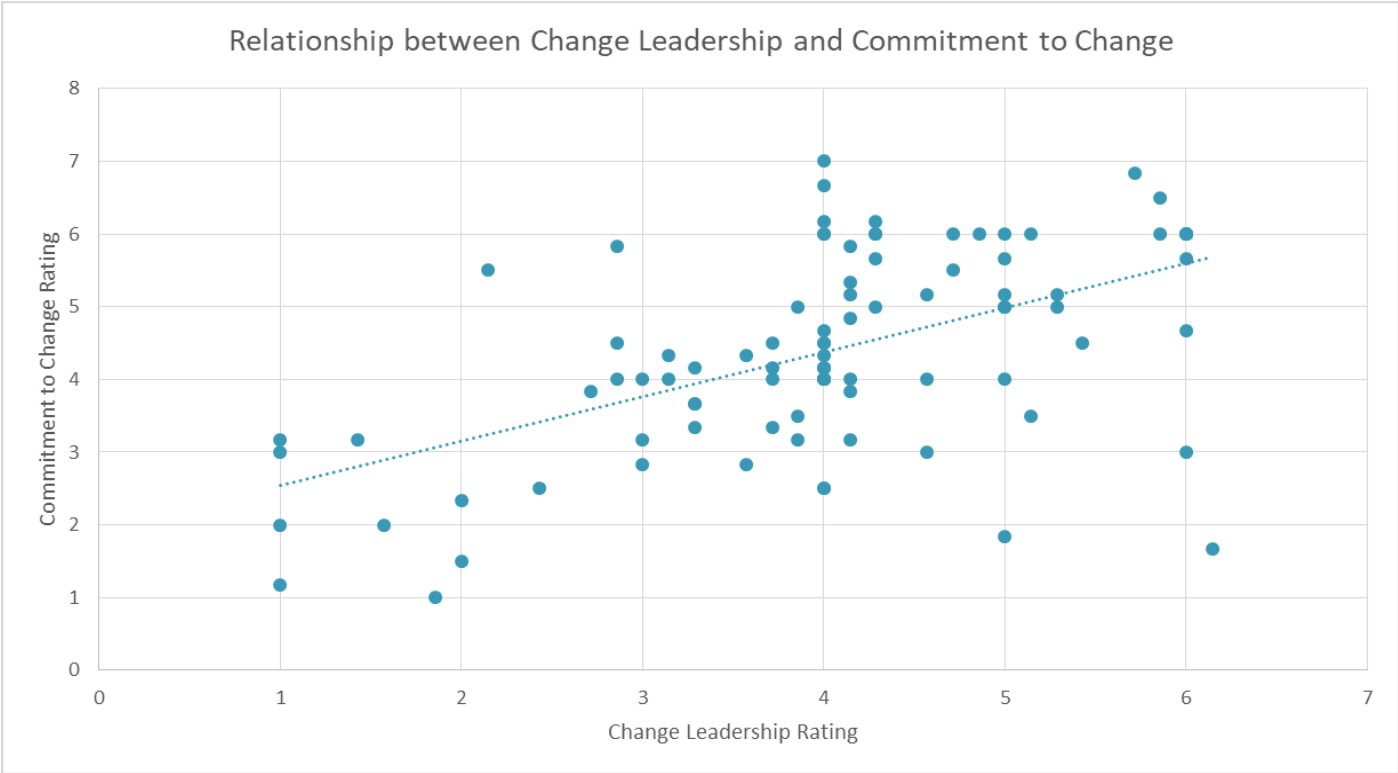
No significant differences between sites

Organizational Measures



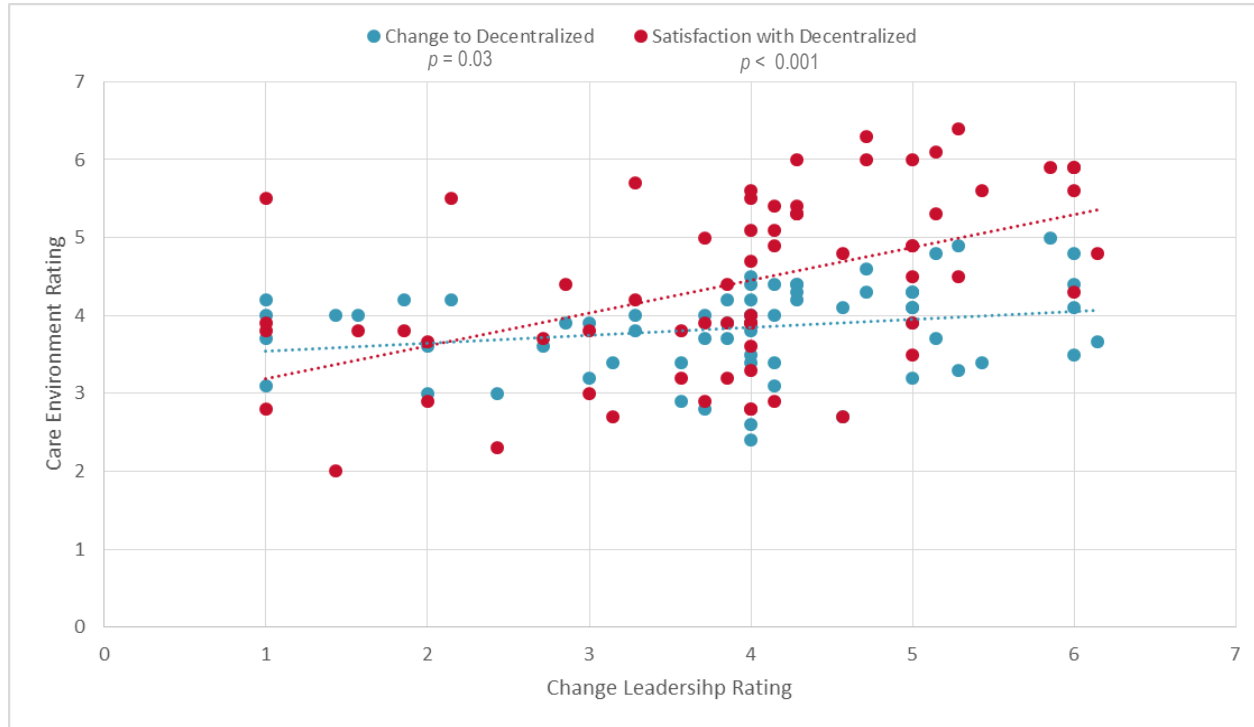
No significant differences between sites

Associations of Organizational Measures



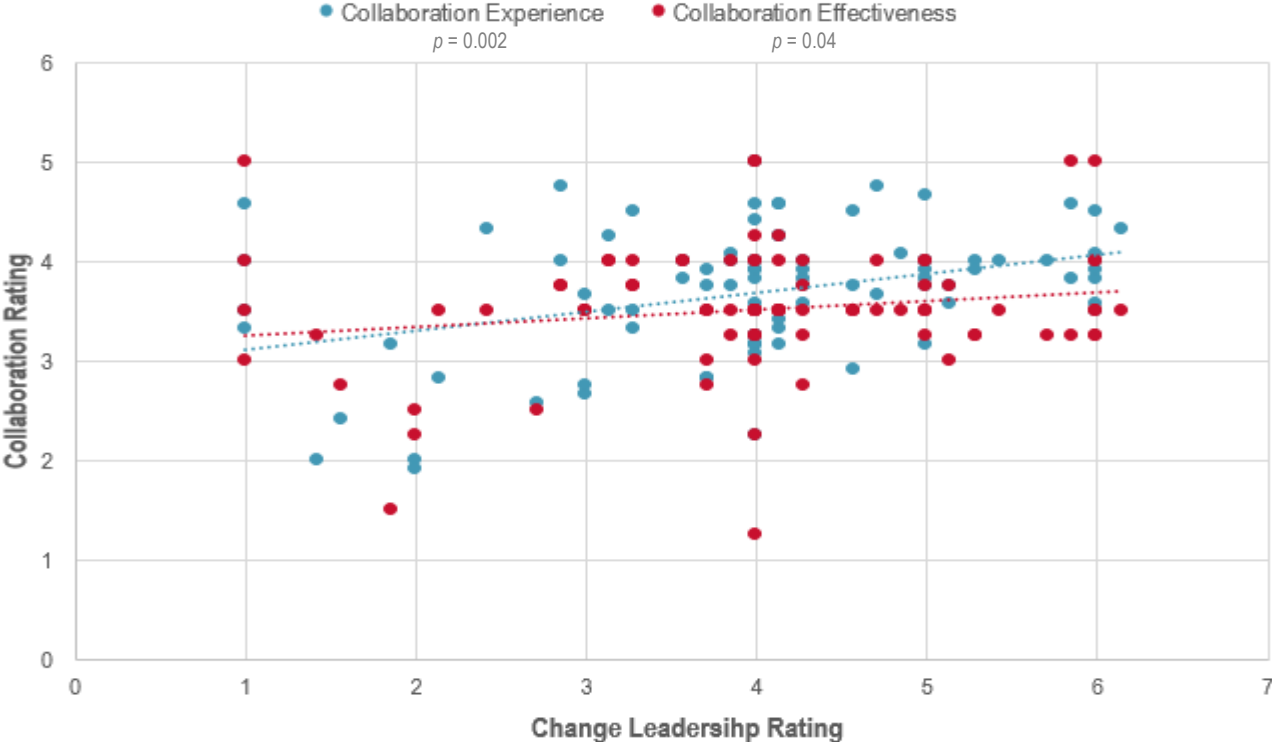
Positive relationship between staff perceptions of change leadership and commitment to change

Organizational Measures and Satisfaction with Decentralization



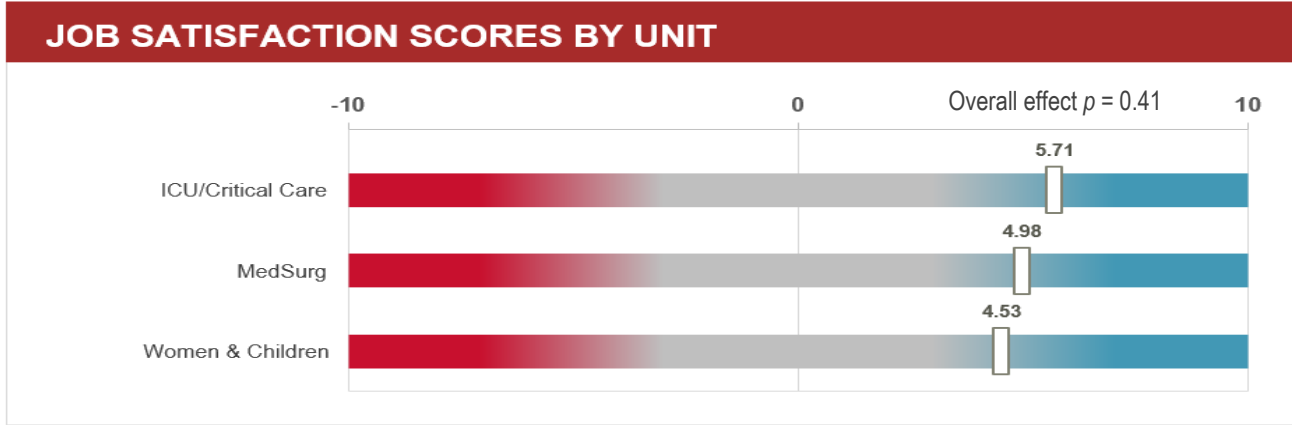
Relationship between perception of change leadership and rating of change to decentralized nursing
Stronger relationship between change leadership and satisfaction with the decentralized environment

Change Leadership and Collaboration

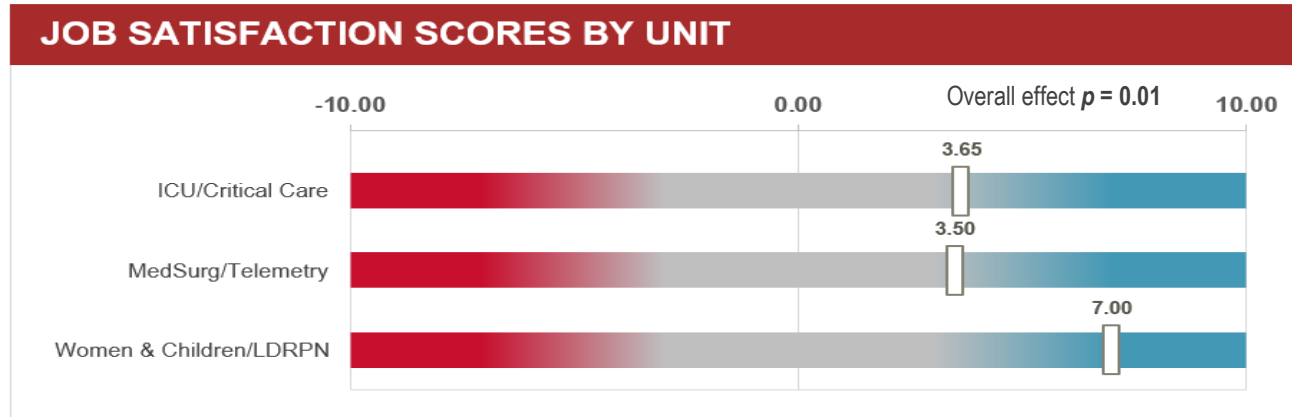


Significant positive association between change leadership and collaboration dimensions, most strongly collaboration experience

Between-Unit Differences

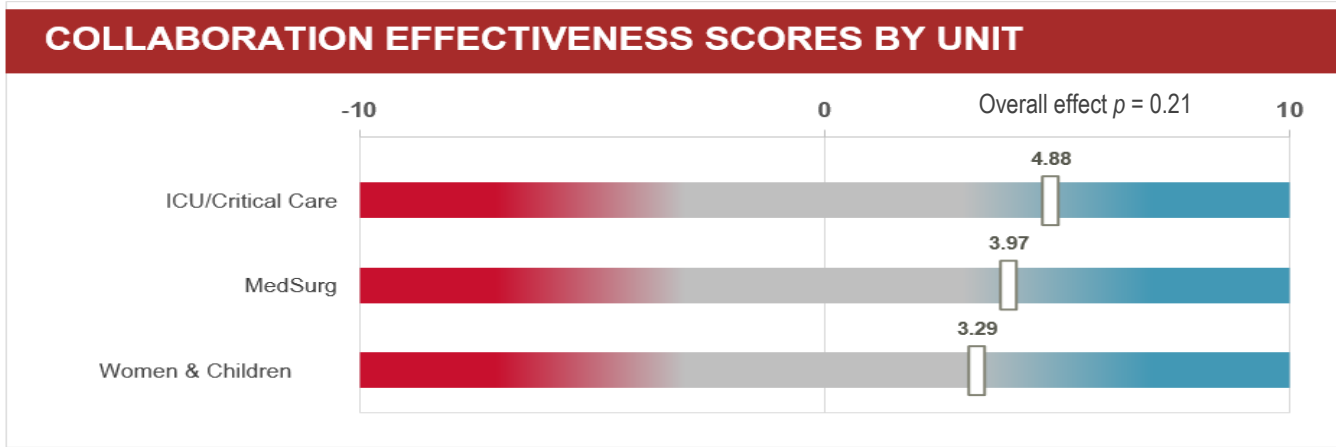


Great Plains Health

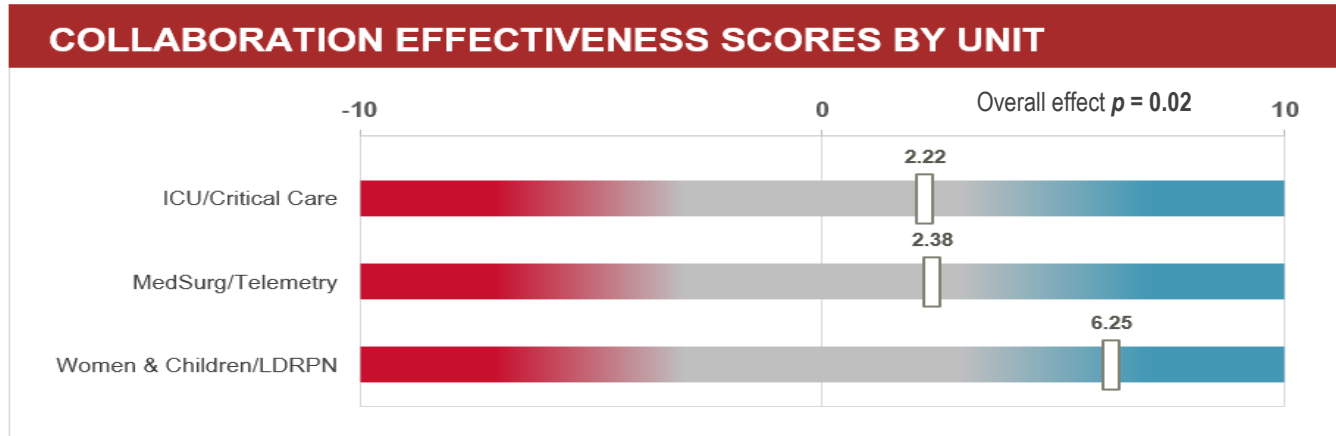


Fremont Health

Between-Unit Differences



Great Plains Health



Fremont Health

Other Between-Unit Differences

- Overall work experience
- Feeling well-informed about activities and changes in the unit/department
- Ability to know when a coworker needs help
- Have information needed for work
- Ease of getting help from colleagues
- Noise levels





04

STAFF FOCUS
GROUP FINDINGS

Staff Focus Groups

28 Caregivers participated across both sites.

Findings indicate that :

- Nurses define quality of care in human terms rather than in quantitative outcomes.
- Caregivers feel that the decentralized design places them closer to patients & improves nurse-patient communication and education.
- The majority of nurses feel staff teamwork & communication is compromised by the new design.





05 PATIENT OUTCOMES

LENGTH OF STAY

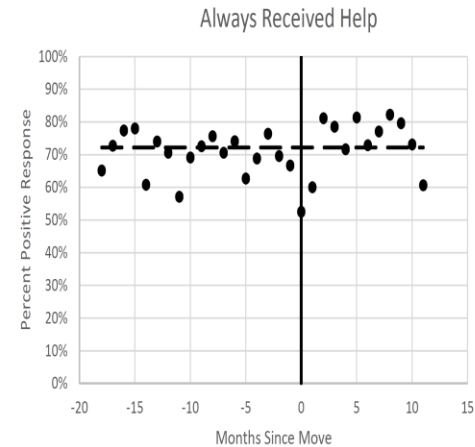
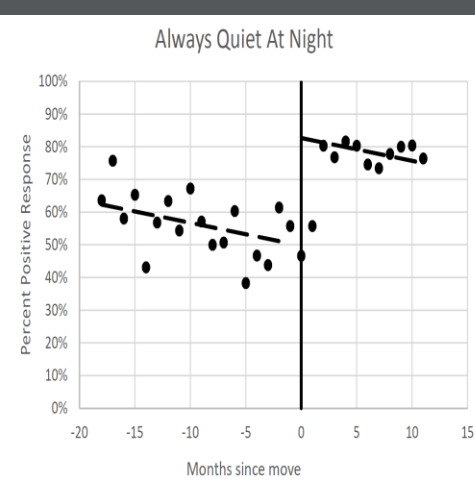
- 7,408 patient encounters from Fremont Health
- 7,797 patient encounters from Great Plains Health
- At Great Plains Health there was a statistically significant decrease in length of stay comparing the pre to the post period
- At Fremont Health, there was no effect of time on LOS
- An interrupted time series model was used to assess LOS for Fremont Health, finding a relatively constant LOS over time in both the pre and the post periods.



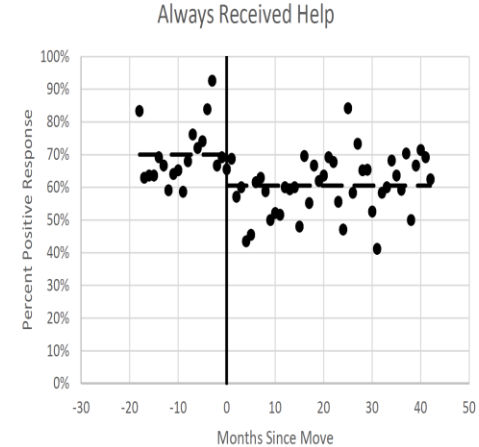
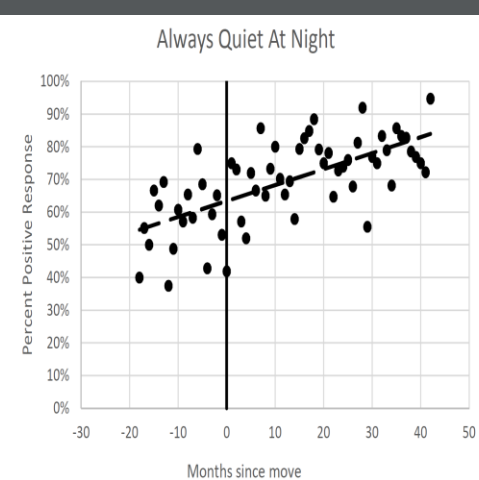
PATIENT SATISFACTION (HCAHPS ITEMS)

- Some changes in HCAHPS scores based on a time series model
- “Always” quiet at night increased at the time of the move at Great Plains Health while an increase over time at Fremont Health appeared to be a continuation of a trend prior to the move
- “Always” getting help as soon as wanted after pressing the call button stayed constant at Great Plains Health but decreased at the time of the move at Fremont Health

Great Plains Health



Fremont Health



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